X-Ref SA Vol #1

PRELIMINARY ASSESSMENT

ALCATEL NETWORK SYSTEMS, INC.
RICHARDSON, TEXAS
TXD007327265

DRAFT REPORT

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Region 6
1445 Ross Avenue
Dallas, TX 75202

Work Assignment No.	:	C06069
EPA Region	:	6
Site No.	:	TXD007327265
Date Prepared	:	July 31, 1992
Contract No.	:	68-W9-0006
PRC No.	:	009-C06069
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EXECUTIVE SUMMARY

PRC Environmental Management, Inc. (PRC), performed a preliminary assessment (PA) to identify and assess the probability of releases from solid waste management units (SWMU) and other areas of concern (AOC) at the Alcatel Network Systems, Inc. (Alcatel), facility in Richardson, Texas. PRC reviewed documents from the files of the U.S. Environmental Protection Agency (EPA) Region 6, and the Texas Water Commission (TWC). PRC also conducted telephone interviews with Alcatel facility personnel, knowledgeable TWC investigators, and other local government agencies. This report summarizes the results of the PA and evaluates the potential for releases of hazardous wastes or hazardous constituents from SWMUs and AOCs. At the request of the EPA work assignment manager (WAM), (1) a visual site inspection (VSI) was not conducted, (2) a Region 6 Corrective Action Prioritization System (R6CAPS) Score was not determined, and (3) the facility was not required to respond to a written request for SWMU-specific or waste-stream-specific information.

The facility has operated at its current location since 1957, when it was known as the Collins Radio Company. Rockwell International purchased the facility in 1973 and sold it to Alcatel in August 1991. The facility occupies about 82 acres in an industrial and commercial area, and employs about 3,420 people. Rockwell International was a former treatment, storage, and disposal (TSD) facility that submitted an Affidavit of Exclusion to request Part A withdrawal and change its status to a less-than-90-day generator. This was accomplished, in part, by closing a container storage area on September 12, 1989.

The Alcatel facility manufactures electronic telecommunications equipment used in voice, data, and image transmissions. The facility generates and manages solvents and paint sludges (F001/F002/F003/F005), organic and inorganic acids (F009), plating waste (F007), soldering flux (D008), and other nonhazardous waste streams. Twenty-six solid waste streams are treated in a wastewater pretreatment system (WPS) that discharges industrial wastewater into the sanitary sewer system. This discharge is permitted by the City of Richardson.

The PA identified the following 17 SWMUs and 2 AOCs at the facility:

Solid Waste Management Units

1. Container storage area
2. Chrome sump tank T-7
3. Cyanide sump tank T-8
4. Acid/alkaline sump tank T-6
5. Chrome reaction tank T-5 (surface)
6. pH adjustment tank T-2 (surface)
7. Cyanide destruct tank T-4 (surface)
8. Cyanate destruct tank T-3 (surface)
9. pH adjustment tank T-1 (surface)
10. Flash mix tank T-18 (surface)
11. Clarifier tank T-16 (surface)
12. Floc tank T-17 (surface)
13. Sludge tank T-15 (surface)
14. Bulk storage area
15. Building 408 pipeline area
16. Building 415 underground storage tank (UST) area
17. Building 405 sanitary sewer line area

Areas of Concern

1. Building 407 UST area
2. Building 405/408 UST area

Dames & Moore was contracted by Rockwell International to perform a three-phase site assessment at the Richardson facility, as part of a due diligence process. The Phase III site assessment found five areas of contamination at the facility (SWMUs No. 15 through 17 and AOCs No. 1 and 2), two of which the TWC Solid and Hazardous Waste Division found to be in violation (SWMU No. 15, AOC No. 2). The TWC compliance evaluation inspection, conducted on

February 12, 1991, requested that the violations be corrected by June 15, 1992. Recent discussions with TWC indicated that four of these five areas of contamination will probably be placed under the jurisdiction of TWC's Petroleum Storage Tank (PST) Division; the fifth area would probably be under TWC's Solid and Hazardous Waste Division. Under these circumstances, TWC will probably postpone any corrective action until jurisdiction has been formalized for all five areas of contamination (Britton, 1992).

Releases to the shallow perched ground water have been documented within four of the five areas of contamination (SWMUs No. 15 and 16 and AOCs No. 1 and 2) detailed by the Dames & Moore site assessment. Elevated levels of petroleum hydrocarbons have been detected within two former excavated UST areas (tank holds) and around the building 408 pipeline area; petroleum hydrocarbons, benzene, and toluene were found within the third UST tank hold area.

Diesel fuel has been found in facility-related storm sewers on two separate occasions. During the second incident, diesel fuel drained into nearby Duck Creek, where it was subsequently diked and pumped out for off-site disposal. Duck Creek flows southeast and eventually enters the east fork of the Trinity River, south of Lake Ray Hubbard.

All five areas of contamination were found to contain soils with elevated levels of petroleum hydrocarbons. One of the former UST tank areas also contained toluene and xylene (AOC No. 2); 1,1,1-trichloroethane and methylene chloride concentrations were detected in the soils surrounding the sanitary sewer line area (SWMU No. 17).

No documented releases have occurred from SWMUs No. 1 to 14. PRC recommends no further action for any of these units. PRC recommends further investigation of SWMUs No. 15 through 17 and AOCs No. 1 and 2 to determine whether corrective action is required.

DISCLAIMER

This report was prepared for the U.S. Environmental Protection Agency (EPA), Region 6, by PRC Environmental Management, Inc. (PRC), in fulfillment of Contract No. 68-W9-0006, Work Assignment No. C06069. The opinions, findings, and conclusions expressed herein are those of PRC and not necessarily those of EPA or other cooperating agencies. Mention of company or product names is not to be considered an endorsement by EPA.

This document is intended to (1) assist EPA in screening sites, and (2) facilitate EPA's assignment of site priorities for corrective action. Under the EPA Region 6 Environmental Priorities Initiative, the Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) work together to identify and rank RCRA facilities that require corrective action. The preliminary assessment/visual site inspection (PA/VSI) is the first step in the process of ranking facilities for corrective action. EPA must exercise its technical judgment in using the PA/VSI Report, as well as other relevant information, in determining which facilities require corrective action.

1.0 INTRODUCTION

PRC Environmental Management, Inc. (PRC), received Work Assignment No. C06069 from the U.S. Environmental Protection Agency (EPA), under Contract No. 68-W9-0006 (TES 9), to conduct preliminary assessments (PA) and visual site inspections (VSI) of hazardous waste treatment and storage facilities in Region 6. The PA/VSI is the first step in the process of prioritizing facilities for corrective action. Through the PA/VSI process, enough information is obtained to characterize a facility's actual or potential releases to the environment from solid waste management units (SWMU) and areas of concern (AOC).

A SWMU is defined as any discernible unit at a Resource Conservation and Recovery Act (RCRA) facility in which solid wastes have been placed and from which hazardous constituents might migrate, regardless of whether the unit was intended to manage solid or hazardous waste.

The SWMU definition includes the following:

- RCRA-regulated units, such as container storage areas, tanks, surface impoundments, waste piles, land treatment units, landfills, incinerators, and underground injection wells
- Closed and abandoned units
- Recycling units, wastewater treatment units, and other units that EPA has generally exempted from standards applicable to hazardous waste management units
- Areas contaminated by routine and systematic releases of wastes of hazardous constituents; includes wood preservative drippage areas, loading and unloading areas, and areas where solvent used to wash large parts has continually dripped onto soils

An AOC is defined as any area where a release to the environment of hazardous waste or constituents has occurred, or is suspected to have occurred, on a nonroutine and nonsystematic basis. This includes any area judged to have a strong potential for such a release.

The purposes of the PA are as follows:

- Identify SWMUs and AOCs at the facility.
- Obtain information on the operational history of the facility.
- Obtain information on releases from any units at the facility.
- Identify data gaps and other informational needs to be filled during the VSI.

The PA generally includes a review of all relevant documents and files located at state offices and at the EPA Region 6 office in Dallas, Texas. The purposes of the VSI are as follows:

- Identify SWMUs and AOCs not discovered during the PA.
- Identify releases not discovered during the PA.
- Provide a specific description of the environmental setting.
- Provide information on release pathways and the potential for releases to each medium.
- Confirm operational, SWMU, AOC, and release information obtained during the PA.

VSI activities include (1) interviewing appropriate facility staff members, (2) inspecting the entire facility to identify all SWMUs and AOCs, (3) photographing SWMUs, (4) identifying evidence of releases, (5) initially identifying potential sampling locations, and (6) obtaining all information necessary to complete the PA/VSI report.

This report documents the results of a PA of Alcatel Network Systems, Inc. (Alcatel), in Richardson, Texas. The PA was completed on June 5, 1992. PRC reviewed documents from EPA Region 6 files and Texas Water Commission (TWC) files. PRC also conducted telephone interviews with Alcatel facility personnel, knowledgeable TWC investigators, and other local government agencies. At the request of the EPA work assignment manager (WAM), (1) a VSI was not conducted, (2) a Region 6 Corrective Action Prioritization System (R6CAPS) score was not determined, and (3) the facility was not required to respond to a written request for SWMU or

waste-stream-specific information.

Section 2.0 presents background information on the facility's location, operations, waste generating processes, documented release history, regulatory history, environmental setting, and receptors. Section 3.0 presents SWMU-specific information, including the unit's description, dates of operation, wastes managed, release controls, and documented release history. AOCs are discussed in Section 4.0.

2.0 FACILITY DESCRIPTION

This section describes the facility's location, past and present operations (including waste management practices), waste generating processes, documented release history, regulatory history, environmental setting, and receptors.

2.1 FACILITY LOCATION

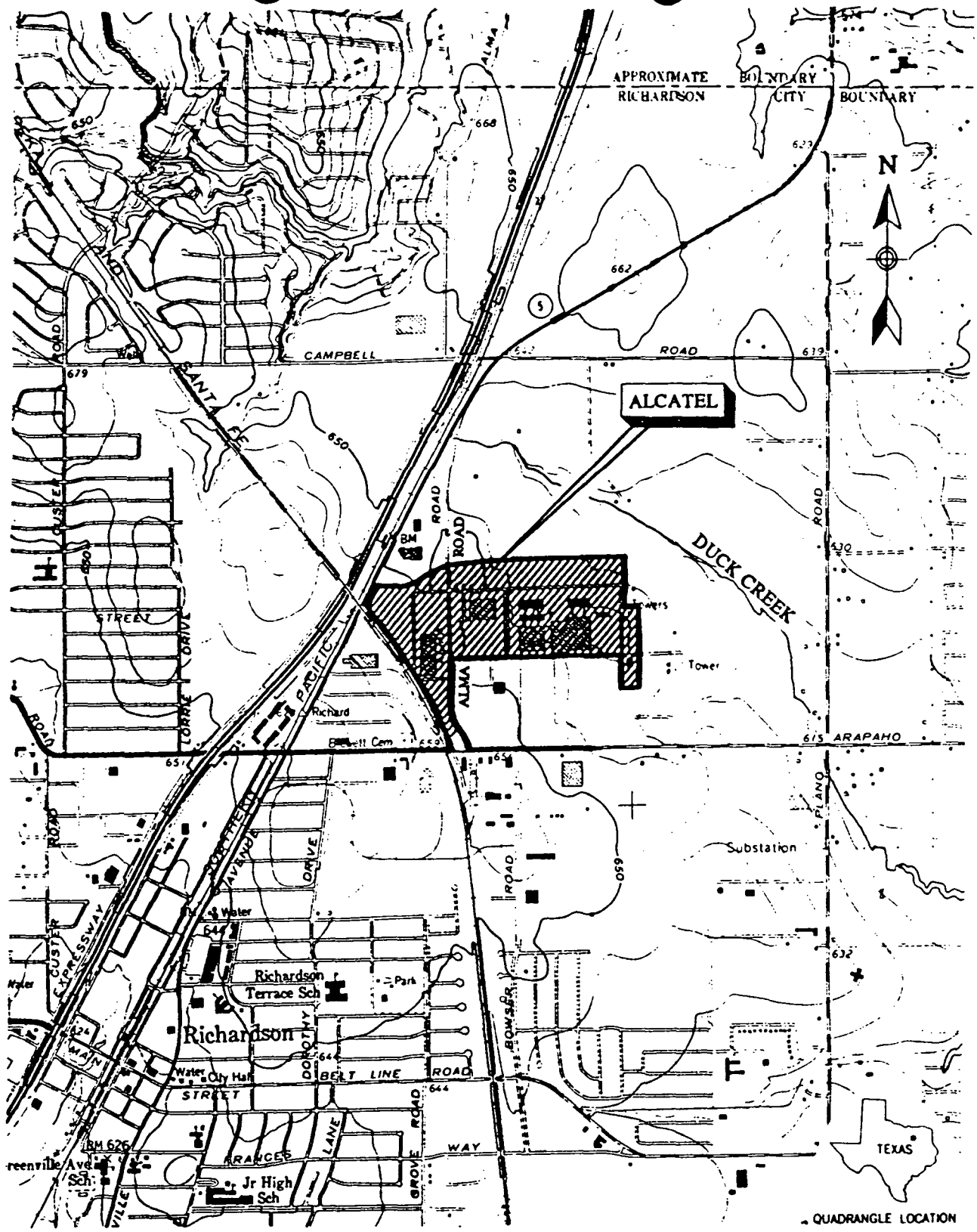
The Alcatel facility is located at 1200 North Alma Road in Richardson, Dallas County, Texas, as shown in Figure 1. The geographic position is latitude 32°57'51" N and longitude 96°42'40" W. The facility occupies about 82 acres in a commercial and industrial area.

2.2 FACILITY OPERATIONS

The Alcatel facility manufactures electronic telecommunications equipment that transmits voice, data, and image information.

The original site owner, Collins Radio Company, began construction on the property in 1957 (Mobley, 1992). Rockwell International acquired the facility in 1973 and added several structures. On August 28, 1991, Rockwell sold the facility to Alcatel. The present facility consists of office buildings, a laboratory and machine shop, and electroplating, pre-finish, and assembly areas. Alcatel employs about 3,420 people.

The facility is regulated as a large-quantity generator with 90-day storage; no hazardous waste



SCALE: 1 INCH = 2,000 FEET

SOURCE: USGS 7.5' TOPOGRAPHIC QUADRANGLE
GARLAND, TEXAS - DATED 1959
PHOTO REVISED 1967 and 1973

ALCATEL NETWORK SYSTEMS, INC.
RICHARDSON, TEXAS

FIGURE 1
SITE LOCATION MAP

PRC Environmental Management, Inc.

is stored for more than 90 days. Hazardous waste is collected and stored in Department of Transportation (DOT)-approved drums, which are sampled and labeled. All drums are stored in a covered storage area, which is curbed and diked to segregate incompatible wastes. Wastewater treatment sludge is dehydrated and stored in DOT-approved 1.5-cubic-yard bags.

Industrial wastewater is discharged to the sanitary sewer that flows to the City of Garland, Texas, Duck Creek Publicly-Owned Treatment Works (POTW). This discharge is permitted by the City of Richardson.

Wastewater producing operations include electroplating, chromium conversion, air conditioning cooling towers, a photographic lab, and equipment cooling. The main raw materials used at this facility are paints, solvents, machine coolants, acids, alkalines, soldering fluxes, and resins. All chemicals delivered are received in building 414 (chemical storage), which acts as the central storage area for all chemicals. This building is designed for the storage, spill containment, and fire protection of all chemical types stored.

Building 410 contains the facility's wastewater pretreatment system, which consists of three major processes: (1) cyanide destruction, (2) chrome reduction, and (3) pH neutralization.

Facility SWMUs and AOCs are identified in Table 1. SWMUs involved with the wastewater pretreatment system are discussed in Section 2.3. The facility layout, including the locations of the SWMUs and AOCs, is shown on Figure 2.

2.3 WASTE GENERATING PROCESSES

Alcatel generates 55 wastes, as listed on its TWC Notice of Registration (NOR), dated October 7, 1991. Wastes at the Alcatel facility are generated mainly by (1) metal plating operations, (2) conversion coating operations, (3) degreasing operations, (4) soldering operations, (5) photo resist stripping operations, and (6) spray painting operations. These wastes are generated during the production of electronic telecommunications equipment, and are believed to be managed mainly within the wastewater pretreatment system.

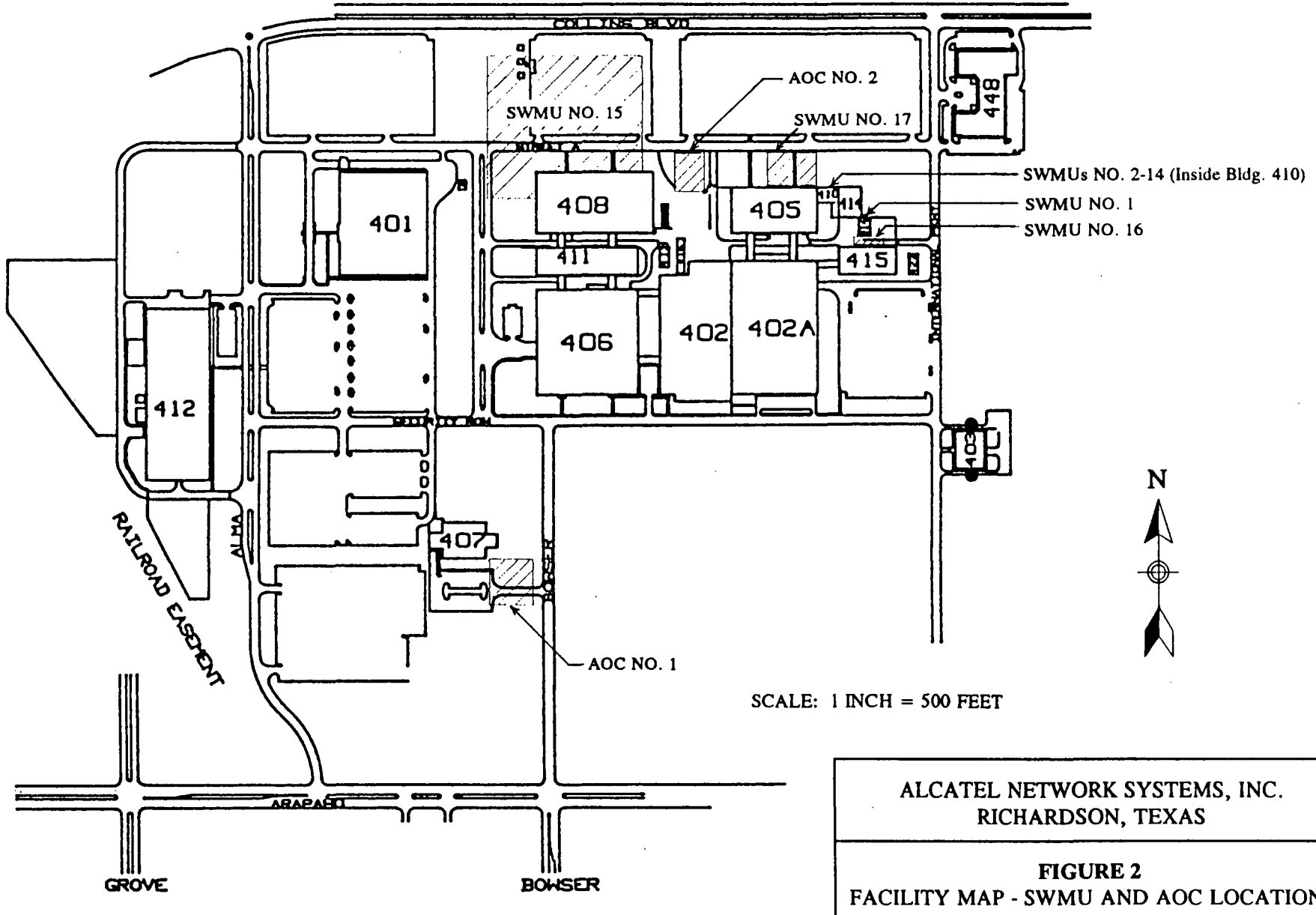
TABLE 1

SOLID WASTE MANAGEMENT UNITS (SWMU) AND AREAS OF CONCERN (AOC)

SWMU No.	SWMU Name	RCRA Hazardous Waste Management Unit	Status
1	Container storage area	Yes	Active
2	Chrome sump tank T-7	No	Active
3	Cyanide sump tank T-8	No	Active
4	Acid/alkaline sump tank T-6	No	Active
5	Chrome reaction tank T-5 (Surface)	No	Active
6	pH adjustment tank T-2 (Surface)	No	Active
7	Cyanide destruct tank T-4 (Surface)	No	Active
8	Cyanate destruct tank T-3 (Surface)	No	Active
9	pH adjustment tank T-1 (Surface)	No	Active
10	Flash mix tank T-18 (Surface)	No	Active
11	Clarifier tank T-16 (Surface)	No	Inactive
12	Floc tank T-17 (Surface)	No	Inactive
13	Sludge tank T-15 (Surface)	No	Active
14	Bulk storage area	No	Active
15	Building 408 pipeline area	No	Inactive
16	Building 415 UST area	No	Inactive
17	Building 405 sanitary sewer line area	No	Active
AOC No.	**AOC NAME**	**RCRA Hazardous Waste Management Unit**	**Status**
1	Building 407 UST area	No	Inactive
2	Building 405/408 UST area	No	Inactive

Notes:

SWMUs No. 1-14 were adapted from TWC, 1991, Notice of Registration. SWMUs No. 15-17 and AOCs No. 1-2 were adapted from Dames & Moore, 1992.



SOURCE: Dames & Moore, 1992

ALCATEL NETWORK SYSTEMS, INC.
RICHARDSON, TEXAS

FIGURE 2
FACILITY MAP - SWMU AND AOC LOCATIONS

PRC Environmental Management Inc.

Eight tanks are associated with the three wastewater system process operations. Tanks T-7, T-5, and T-2 (SWMUs No. 2, 5, and 6) are associated with the chrome reduction process; tanks T-8, T-4, and T-3 (SWMUs No. 3, 7, and 8) are part of the cyanide destruction process; and tanks T-6, T-2 and T-1 (SWMUs No. 4, 6, and 9) are involved in pH neutralization.

Wastewater from the pretreatment system is discharged to the Richardson Sanitary Sewer System. Drums of hazardous and nonhazardous waste are stored in the container storage area (SWMU No. 1), which underwent closure in 1989 and is now limited to storage for less than 90 days. Waste descriptions, the NOR waste number, EPA waste code, source, primary management unit, and disposal facility are listed in Table 2.

2.4 HISTORY OF DOCUMENTED RELEASES

This section discusses documented releases to ground water, surface water, air, and on-site soils at the Alcatel facility.

Rockwell International contracted Dames & Moore to perform a three-phase site assessment at the Richardson facility, as part of a due diligence process. The assessment was partly intended to determine the vertical and horizontal extent of associated soil and ground-water contamination. As a result of this investigation, Dames & Moore identified contamination in the following five areas: (1) building 408 pipeline area (SWMU No. 15), (2) building 407 underground storage tank (UST) area (AOC No. 1), (3) building 415 UST area (SWMU No. 16), (4) building 405/408 UST area (AOC No. 2), and (5) building 405 sanitary sewer line area (SWMU No. 17). AOC No. 2 is an area located between buildings 405 and 408 (Figure 2).

The building 408 pipeline area contamination involves underground diesel fuel lines originally found to be leaking in 1971. In 1971, these lines were capped, abandoned in-place, and replaced by an aboveground supply line (Dames & Moore, 1992). Diesel-contaminated soil in the vicinity of the buried pipeline was discovered in 1986 during construction activities involving the expansion of building 408. In March and April 1986, Rockwell International and Chemical Waste Management (CWM) performed a Phase I site assessment. In May 1986, as a result of the remediation plan, about 2,500 cubic yards of affected soil were removed and aerated on-site; the soil was disposed of in the

TABLE 2

SOLID WASTES

Sheet 1 of 6

TWC NOR[a] Waste No.	Description	EPA Waste Code	Source	Primary Management Unit	Disposal Facility
001	Spent solvents	F001 F002 F003	Degreasing and spray painting operations	NA[b]	NA[b]
002	Paint solvents	F003 F005	Cleaning spray paint guns and paint brushes	NA[b]	HEAT[d]
003	Soldering flux	D008	Wave solder	NA[b]	HEAT[d]
004	Cutting oil	--	Machinery	NA[b]	HEAT[d]
005	Oil and/or solvent paint sludge	F003 F005	Paint booths	NA[b]	CWM[e]
006	Chromic nitric acid	F009	Electroplating	WPS[c] (SWMUs No. 2 to 13)	--
007	Nitric acid	F009	Electroplating	WPS[c] (SWMUs No. 2 to 13)	--
008	Muriatic acid	F009	Electroplating	WPS[c] (SWMUs No. 2 to 13)	--
009	Bright dip acid	F009	Electroplating	WPS[c] (SWMUs No. 2 to 13)	--

Notes:

[a] NOR = Notice of Registration
[b] NA = Information not available from file review
[c] WPS = Wastewater pretreatment system
[d] HEAT = Heat Advanced Energy Technology
[e] CWM = Chemical Waste Management

TABLE 2

SOLID WASTES

Sheet 2 of 6

TWC NOR[a] Waste No.	Description	EPA Waste Code	Source	Primary Management Unit	Disposal Facility
010	Nitric-phosphoric acid	F009	Electroplating	WPS[c] (SWMUs No. 2 to 13)	--
011	Aluminum deoxidizer solution	F009	Electroplating	WPS[c] (SWMUs No. 2 to 13)	--
012	Nickel plating solution	F007	Electroplating	WPS[c] (SWMUs No. 2 to 13)	--
013	Acid metal treatment solution (spent)	F009	Electroplating	WPS[c] (SWMUs No. 2 to 13)	--
014	Chromate conversion solution (acidic) (for steel)	F009	Electroplating	WPS[c] (SWMUs No. 2 to 13)	--
015	Plating solution	F007	No longer generated	NA[b]	--
016	Halogenated solvents	F001 F002	Not generated	NA[b]	--
017	Aromatic solvents	F003 F005	Not generated	NA[b]	--
018	Sulfuric acid	F009	NA[b]	NA[b]	--
019	Cyanide-bearing waste	F009	NA[b]	NA[b]	--

Notes:

[a] NOR = Notice of Registration
[b] NA = Information not available from file review
[c] WPS = Wastewater pretreatment system
[d] HEAT = Heat Advanced Energy Technology
[e] CWM = Chemical Waste Management

TABLE 2

SOLID WASTES

Sheet 3 of 6

TWC NOR[a] Waste No.	Description	EPA Waste Code	Source	Primary Management Unit	Disposal Facility
020	Alkaline steel cleaning solution	F009	Electroplating	WPS[c] (SWMUs No. 2 to 13)	--
021	Chromate (aluminum) conversion solution (acidic)	F009	Electroplating	WPS[c] (SWMU No. 2 to 13)	--
022	Chromate-bearing waste	F009	Electroplating	WPS[c] (SWMUs No. 2 to 13)	--
023	Mild acidic solution	F009	Electroplating	WPS[c] (SWMUs No. 2 to 13)	--
024	Phosphatizing solution	F009	Electroplating	WPS[c] (SWMUs No. 2 to 13)	--
025	Acidic phosphoric	F009	Electroplating	WPS[c] (SWMUs No. 2 to 13)	--
026	Alkaline etchant	F009	Electroplating	WPS[c] (SWMUs No. 2 to 13)	--
027	Alkaline aluminum cleaner	--	Electroplating	WPS[c] (SWMUs No. 2 to 13)	--
028	Alkaline metal cleaning solution	F009	Electroplating	WPS[c] (SWMUs No. 2 to 13)	--

Notes:

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[c] WPS = Wastewater pretreatment system
[d] HEAT = Heat Advanced Energy Technology
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TABLE 2

SOLID WASTES

Sheet 4 of 6

TWC NOR[a] Waste No.	Description	EPA Waste Code	Source	Primary Management Unit	Disposal Facility
029	Nickel sulfate	NA[b]	Electroplating	WPS[c] (SWMUs No. 2 to 13)	--
030	Cyanide waste containing heavy metals	F009	Electroplating	WPS[c] (SWMUs No. 2 to 13)	--
031	Mixed (organic and inorganic) acids	--	Fiber Optics Lab	NA[b]	CWM[e]
032	Fluoride sludge	--	No longer generated	NA[b]	--
033	Tin plate wastes	F007	Electroplating	WPS[c] (SWMUs No. 2 to 13)	--
034	Cyanide copper-plating waste	F007	Electroplating	WPS[c] (SWMUs No. 2 to 13)	--
035	Acid plating waste	F007	Electroplating	WPS[c] (SWMUs No. 2 to 13)	--
036	Plating solution containing heavy metals	F007	Electroplating	WPS[c] (SWMUs No. 2 to 13)	--
037	Zinc plating waste	F007	Electroplating	WPS[c] (SWMUs No. 2 to 13)	--

Notes:

[a] NOR = Notice of Registration
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[c] WPS = Wastewater pretreatment system
[d] HEAT = Heat Advanced Energy Technology
[e] CWM = Chemical Waste Management

TABLE 2

SOLID WASTES

Sheet 5 of 6

TWC NOR[a] Waste No.	Description	EPA Waste Code	Source	Primary Management Unit	Disposal Facility
038	Photo resist stripper	--	Manufacture of printed circuit boards	NA[b]	CWM[e]
039	Gold strip and gold salvage operations	NA[b]	NA[b]	NA[b]	NA[b]
040	Ion exchange resin	NA[b]	Has not been generated	NA[b]	NA[b]
041	Gold plating solution	--	Fiber Optics Lab	NA[b]	Eutectic Metals
042	Silver plating waste	--	Fiber Optics Lab	NA[b]	NA[b]
043	Paper trash	--	NA[b]	NA[b]	Unnamed Recycler
044	Metal scrap	--	NA[b]	NA[b]	Unnamed Recycler
045	Photographic film	--	Photographic Shop	NA[b]	Unnamed Recycler
046	Grease trap waste	--	Cafeteria kitchen	NA[b]	NA[b]
047	Wastewater treatment sludge	--	Wastewater pretreatment system	WPS[c] (SWMUs No. 2 to 13)	CWM[e]
048	Etching solution	--	Not generated	NA[b]	--

Notes:

[a] NOR = Notice of Registration
[b] NA = Information not available from file review
[c] WPS = Wastewater pretreatment system
[d] HEAT = Heat Advanced Energy Technology
[e] CWM = Chemical Waste Management

TABLE 2

SOLID WASTES

Sheet 6 of 6

TWC NOR[a] Waste No.	Description	EPA Waste Code	Source	Primary Management Unit	Disposal Facility
049	Miscellaneous chemical- contaminated containers	--	NA[b]	NA[b]	CWM[e]
050	Ferric chloride	--	Fiber Optics Lab	NA[b]	CWM[e]
051	Wastewater containing organics and metals	--	Solvent tank closure-waste is no longer generated	NA[b]	--
052	Freon	--	Degreasing printed circuit boards	NA[b]	HEAT[d]
053	Trichloroethane	NA[b]	Degreasing metal during plating operations	NA[b]	HEAT[d]
054	Lab packs	NA[b]	NA[b]	NA[b]	CWM[e]
055	Asbestos insulation	--	Repairs to friable and nonfriable asbestos-containing materials	NA[b]	NA[b]

Notes:

[a] NOR = Notice of Registration
[b] NA = Information not available from file review
[c] WPS = Wastewater pretreatment system
[d] HEAT = Heat Advanced Energy Technology
[e] CWM = Chemical Waste Management

Dallas/Fort Worth Landfill in Lewisville, Texas, in July and August 1986 (Dames & Moore, 1992). On June 30, 1986, TWC verbally approved landfilling of the treated soil as nonhazardous waste in a sanitary landfill; written approval of the landfill disposal was obtained from the Texas Department of Health on June 30, 1986 (Dames & Moore, 1992). The soil excavation was concentrated in the area of planned construction, near the northwest corner of building 408. Soil containing petroleum hydrocarbons was also found outside the planned construction area but was left in-place, because the total petroleum hydrocarbon (TPH) concentrations were below TWC's soil remediation guidelines (Dames & Moore, 1992).

The environmental investigations performed by Dames & Moore (Phases I, II, and III) obtained 56 soil samples within the building 408 pipeline area; nine of the samples contained petroleum concentrations exceeding the estimated TWC soil cleanup action levels. The test results indicated that the affected area covers about 32,000 square feet and extends to depths of 6 to 10 feet below ground surface (bgs). Two of seven ground-water samples analyzed were found to have TPH concentrations slightly above the detection limit of 0.5 part per million (ppm); their concentrations were 2.7 and 1.6 ppm. Both samples were collected from a perched ground-water zone within the same monitoring well but were sampled 3 months apart.

On March 23, 1986, during the site investigation, diesel fuel was discovered flowing in a storm sewer under Collins Boulevard and into Duck Creek. The exact source was never determined. On February 10, 1987, additional diesel fuel was encountered during trenching operations related to the installation of new sanitary sewer lines at building 408. An independent contractor pumped several gallons of diesel fuel onto Street A. The fuel subsequently ran into a storm sewer that drains into Duck Creek (Dames & Moore, 1992). Diesel fuel was then discovered in Duck Creek. Rockwell International notified the Texas Emergency Response Center (TERC) in Austin, Texas. Two containment dikes were built on the creek to contain the spill, and the diesel fuel was pumped out and disposed of off-site. Rockwell monitored the spill area for several weeks until all visible evidence of diesel was removed. Rockwell notified TERC and TWC by letter on February 23 and March 13, 1987, respectively, of the completion of cleanup activities on Duck Creek (Dames & Moore, 1992).

The building 407 UST area - the second area of contamination addressed by Dames &

Moore - is the site of a UST that was removed in 1988. Backfill material and perched water within the former excavated tank area (tank hold) were apparently contaminated by a 5-gallon diesel fuel spill that occurred while a drain-back line was being emptied during tank removal operations (Dames & Moore, 1992). A TPH concentration of 540 ppm was detected in a soil sample collected at a depth of from 4 to 6 feet bgs; ground-water measurements in the same location detected TPH concentrations of 10.0 and 3.4 ppm on June 16 and September 17, 1991, respectively. The volume of affected material may be as little as 30 cubic yards or may extend to depths of from 10 to 12 feet bgs (Dames & Moore, 1992).

The building 415 UST area involves petroleum hydrocarbon contamination within the sandy backfill in the former UST tank hold. TPH concentrations of 6.0 and 4.0 ppm were detected in ground-water samples collected from a well within the former tank hold (Dames & Moore, 1992). TPH concentrations in soil samples collected from 10 to 20 feet north, east, south, and west of the ground-water monitor well mentioned above were below the 10.0 ppm analytical limit for TPH. Samples were collected at depth intervals of from 4 to 6, 9 to 11, and 14 feet bgs. The volume of affected material is estimated to be as little as 30 cubic yards and may extend to depths of from about 10 to 12 feet bgs (Dames & Moore, 1992).

The UST at the building 405/408 area was removed in 1989 and found to be in good condition; however, spillage had occurred from overfill that affected the soil and perched ground water (TWC, 1992). Of the 10 soil samples collected in this area, only one was found to contain TPH concentrations above the analytical detection limit of 50.0 ppm; a concentration of 56.0 ppm was detected at a depth interval of from 9 to 11 feet bgs. Toluene was detected in two soil borings with concentrations of 3.1 and 3.9 parts per billion (ppb). Xylenes were present at soil boring B323, from depths of 4 to 16 feet at concentrations of from 2.3 to 3.5 ppb; and in soil boring B321, from depths of 4 to 6 feet at a concentration of 2.2 ppb. In well MW-10, ground-water analysis detected 59.0 ppm of TPH, 1.3 ppb of benzene, and 2.0 ppb of toluene. Test results indicate that trace amounts of petroleum hydrocarbons may be present at from 30 to 40 feet away from the building 405/408 excavation area (Dames & Moore, 1992).

Leakage from the building 405 sanitary sewer line area has resulted in the detection of low concentrations of petroleum and volatile hydrocarbons at depths of from 4 to 11 feet bgs.

Concentrations of 1,1,1-trichloroethane above analytical detection limits were found in nine of 23 soil samples. Three samples detected TPH values above detection limits, as follows: 87.0 ppm, 20.0 ppm, and 81.0 ppm. One borehole detected a methylene chloride concentration of 30.0 ppb. A trichloroethane concentration of 3.0 ppb was found in a separate borehole.

Two of the five areas of contamination previously discussed were recently cited by the Solid Waste Branch of TWC (TWC, 1992). The building 408 pipeline area (SWMU No. 15) and the building 405/408 UST area (AOC No. 1) were cited to be in violation of Texas Administrative Code (TAC) 335.4 - General Prohibitions. TWC requested that the violations be corrected by June 15, 1992. However, the Petroleum Storage Tank (PST) Division of TWC has recently recommended that four of the five areas of contamination be placed under its jurisdiction; the other area (building 405 sanitary sewer line area) will probably be referred to the TWC Solid and Hazardous Waste Division. In view of these developments, the two violations cited will probably be rescinded (Britton, 1992).

2.5 REGULATORY HISTORY

Rockwell International, the former owner, submitted a notification of hazardous waste activity to EPA on August 18, 1980. The facility submitted a RCRA Part A Permit Application on November 19, 1980. This application listed 11,000 gallons of container storage (S01) and a 306000-gallon-per-day treatment tank (T01). The application listed the following wastes: F001 (spent halogenated degreasing solvents); F002 (spent halogenated solvents); F003 and F005 (spent nonhalogenated solvents); F006 and F009 (electroplating sludges and solutions), F007 (spent cyanide solutions); D006 (cadmium); D007 (chromium); and D011 (silver).

On July 23, 1981, EPA granted Rockwell International status as an owner/operator of a hazardous waste management facility. The company has since closed all of the storage facilities in accordance with TWC-approved closure plans and submitted an Affidavit of Exclusion to request Part A withdrawal, dated August 29, 1991. Alcatel is presently a large-quantity generator, permitted to store hazardous waste for less than 90 days. Because of a change in ownership, Alcatel - the present owner - requested that, as of August 28, 1991, its company name replace that of Rockwell International on the NOR.

The facility has closed the container storage area, which was certified closed on September 12, 1989. TWC approved the Closure Plan for this unit; however, Alcatel has not yet received any post-closure approval from either TWC or EPA (Mobley, 1992). The facility currently operates as a large-quantity generator storing wastes for less than 90 days.

The facility has a Texas Air Control Board (TACB) file (No. DB0186G) but is not required to have any operating permits. Alcatel has neither a history of air quality violations (Houston, 1992) nor any odor complaints from area residents (Mobley, 1992).

Alcatel does not have a National Pollutant Discharge Elimination System (NPDES) permit (Franke, 1992) or a Texas Pollutant Discharge Elimination System (TPDES) permit (Jurgensen, 1992). The facility does submit an annual toxic organic management plan (TOMP) to the City of Richardson. The TOMP (1) certifies that no concentrated toxic organics have been dumped into wastewaters, (2) lists the total toxic organics (TTO) used at the facility, (3) specifies the method(s) of disposal, and (4) lists procedures for assuring that TTOs do not routinely spill or leak into the wastewater.

As a result of the TOMP, the facility is permitted by the City of Richardson Department of Health to discharge wastewater to the Richardson sanitary sewer system (Permit No. 0016-1C). This discharge flows to the City of Garland and is treated at the Duck Creek POTW (Lester, 1992a). The City of Garland owns and operates the Duck Creek Plant.

Alcatel has incurred wastewater discharge violations from the City of Richardson between June 1984 and September 1990. The violations concerned the levels of pH, chromium, copper, silver, nickel, and zinc.

2.6 ENVIRONMENTAL SETTING

This section describes the climate, flood plain and surface water, geology and soils, and ground water in the vicinity of the Alcatel facility.

2.6.1 Climate

The climate in Dallas County is humid-subtropical. The average daily temperature is 66°F. January has the lowest average daily temperature - 45°F. July has the highest average daily temperature - 86.3°F.

The total annual precipitation for the county is about 36 inches, and the 1-year, 24-hour maximum rainfall is 6.01 inches (Coffee, Hill, and Ressel, 1975). The average seasonal snowfall is 2 inches.

The prevailing wind is from the south. Average wind speed is highest in April at 13 miles per hour (Coffee, Hill, and Ressel, 1975). Average relative humidity in mid-afternoon is 55 percent, and the average at dawn is 79 percent.

2.6.2 Flood Plain and Surface Water

The Alcatel facility is located outside of the 100-year flood plain (National Flood Insurance Program, 1991). The nearest surface water body, Duck Creek, is located about 1/4 mile east of the facility and is used for flood control and recreation. This surface water body discharges to the east fork of the Trinity River, just south of Lake Ray Hubbard, a distance of about 15 miles.

Surface water drainage at the facility is northeast toward Duck Creek. The surface of the property is level to gently rolling, except where modified by cultural features, such as buildings, roads, and parking lots. Storm water runoff is into the existing storm sewers that discharge into nearby Duck Creek.

2.6.3 Geology and Soils

The soil survey of Dallas County (Coffee, Hill, and Ressel, 1975) classifies two main types of soil map units in the facility area: Austin-Urban Land and Houston Black-Urban Land. The Urban land portion of each complex consists of areas covered with buildings and pavement, which accounts for about 50 to 60 percent of the facility grounds. The Austin and Houston Black soils reflect the

bulk of the undisturbed areas. Austin soils consist of dark grayish-brown silty clay; Houston Black soils contain very dark gray and dark grayish-brown clay with light olive-brown mottles. Soils range from 2 to 10 feet thick and are moderately alkaline. Both soil complexes are moderately well drained; permeabilities are generally low.

The generalized stratigraphy consists of the Upper Cretaceous Austin, Eagle Ford, and Woodbine Groups, which overlay the Lower Cretaceous Washita, Fredricksburg, and Trinity Groups (Texas Department of Water Resources, 1982). The Austin (Chalk) is composed of soft to moderately hard, light gray to gray interbedded chalk, limestone, and marl, which weathers to a tan or white color. The Austin Chalk is from about 400 to 450 feet thick in the project area and dips toward the east at about 0.5 degree per mile. Below the Austin lies the Eagle Ford Group, which consists of gray to black, calcareous to noncalcareous shales, sandstones, and thin limestone layers. The Eagle Ford/Austin contact represents an unconformed surface and commonly contains a basal conglomerate of reworked fossil material from the Eagle Ford. The Eagle Ford Group is from about 200 to 300 feet thick in the facility area. The Woodbine Formation underlies the Eagle Ford Group and consists of interbedded sandstones, sandy clays, and shales.

2.6.4 Ground Water

Depending on seasonal variations in precipitation, ground water may be encountered (1) in the near surface clays, (2) at the contact between the Quaternary deposits and the Austin Chalk Formation, and (3) in joints or faults within the Austin Chalk. The Austin Chalk provides small quantities of ground water in localized areas but is not considered a major aquifer in this area (Texas Department of Water Resources, 1982). A Dames & Moore site assessment at the Alcatel Facility obtained 15 drillers' logs in the area, dated from 1925 to 1982. These logs documented shallow water production (< 50 feet) in limited areas, mainly within 1/4 mile of Duck or Spring Creek. One domestic well was located on Duck Creek, about 1 mile southeast of the site.

The City of Richardson's water supply is entirely from surface reservoirs (Kellinhoffer, 1992); however, records indicate that some industrial and agricultural water is still supplied by well water. The shallowest major aquifer in the area is the Upper Cretaceous Woodbine Formation. This aquifer is confined by the shales within the overlying Eagle Ford Formation, which act as an aquitard

to restrict the vertical movement of ground water. TWC records indicate two active Woodbine wells located within a 3-mile radius of the Alcatel facility: (1) an industrial-use well 3/4 mile northeast, and (2) an irrigation well 2-1/4 miles northeast. Both of these wells reported depths to the producing Woodbine zone exceeding 1,200 feet bgs. Several public water supply wells (Woodbine) were also identified within a 4-mile radius of the facility, but these do not appear to have been active in recent years. The closest of these wells is located about 2-1/4 miles south, in Buckingham, and was capped in 1985 (Schraplau, 1992). Two other public supply wells, located about 3-1/2 miles and 4-1/2 miles northwest, could not be firmly documented as inactive but were believed to no longer be in use (Stringer, 1992).

The other major aquifers in the Dallas-Richardson area are the Paluxy and Twin Mountain formations within the Lower Cretaceous Trinity Group. These aquifers are the largest and most prolific, and are separated from the younger Woodbine aquifer by the Fredricksburg and Washita Groups, which function as an aquitard (Texas Water Development Board, 1990). TWC records indicate that two active wells of the Trinity Group lie within 3 miles of the Alcatel site: (1) an industrial well 1-3/4 miles northeast, screened in the Paluxy, and (2) an irrigation well 2-1/2 miles northeast, screened in the Twin Mountain Formation. These wells reported depths to the producing zones of greater than 1,900 feet bgs, and greater than 3,100 feet bgs, respectively.

Water quality data were not available for the shallow wells previously discussed. Reported total dissolved solids (TDS) concentrations from the Woodbine range from 1,200 to 2,170 ppm; TDS concentrations from the Paluxy range from 742 to 810 ppm (Dames & Moore, 1992).

2.7 RECEPTORS

The Alcatel facility covers about 82 acres in an industrial and commercial area in Richardson, Texas. Richardson has a population of about 75,000. The estimated total population within 1 mile of the facility is 35,000; 160,000 people are estimated to live and work within 3 miles of the site. The nearest school, Prairie Creek Elementary School, is located about 1 mile northwest of the facility. Alcatel facility access is controlled by fences and security personnel (Mobley, 1992).

The nearest surface water body, Duck Creek, is located 1/4 mile east of the facility and is

used for flood control and recreation. Duck Creek flows southeast from the site area to the east fork of the Trinity River, just south of Lake Ray Hubbard, a distance of about 15 miles. Other surface water bodies in the area include Spring Creek and Lake Ray Hubbard. Spring Creek is located about 2 miles northeast and flows southeast for about 12 miles before entering Lake Ray Hubbard.

Ground water is not used as a drinking water supply in the Richardson area. The City of Richardson is part of the North Texas Municipal Water District and receives its drinking water from the treatment plant at Lake Lavon, about 10 miles northeast. The city maintains underground water storage tanks at three locations: (1) 2-3/4 miles northwest of the facility, (2) 3-1/2 miles west-southwest, and (3) 2 miles southeast (Rawson, 1992). The third tank site, which is 2 miles southeast, is located downgradient of the facility and within 1/4 mile of Duck Creek. This site contains two concrete tanks: a primary use tank and a backup tank (Rawson, 1992). The backup tank is scheduled to be repaired soon to correct water leakage. The other two tank sites are not directly downgradient of the facility.

No sensitive environments are located on-site. The nearest wetlands area is located about 1/2 mile west of the facility; additional wetlands are located along Duck Creek (U.S. Department of the Interior, 1989). Duck Creek contains potential fishing areas between Alcatel and the east fork of the Trinity River; several beaver dams have been reported on Duck Creek, north of the Alcatel grounds (Lester, 1992b). Several possible rookeries are reported in the general area, and Duck Creek is a potential habitat for the Texas garter snake, which is currently being considered for threatened or endangered status ("C2")(Sullivan, 1992). The Spring Creek drainage area, about 2 miles northeast of the site, contains the Texas Oak Series - a recognized natural community - as well as numerous isolated wetland areas.

3.0 SOLID WASTE MANAGEMENT UNITS

This section describes the SWMUs identified during the PA. Where available, the following information is presented for each SWMU: description of unit, dates of operation, wastes managed, release controls, and history of release. Figure 2 shows the SWMU locations. Table 3 summarizes SWMU and AOC information.

TABLE 3

SWMU AND AOC SUMMARY

Sheet 1 of 7

	SWMU No. 1	SWMU No. 2	SWMU No. 3
Description	Container storage area is located between buildings 414 and 415. The unit was designed to store drums of hazardous and nonhazardous waste for off-site shipment.	Chrome sump tank T-7 collects segregated chrome rinse waters as part of the wastewater pretreatment system (WPS).	Cyanide sump tank T-8 collec segregated cyanide rinse water as part of the WPS.
Startup	NA[a]	NA[a]	NA[a]
Date of Closure	Unit underwent RCRA closure on September 12, 1989, currently stores hazardous waste for less than 90 days.	The unit is active.	The unit is active.
Wastes Managed	Halogenated and nonhalogenated solvents (F001, F002, F003, and F005); soldering oils (D008); and other hazardous and nonhazardous waste streams	Chrome-bearing rinse waters (acids, solutions, and wastes) (F009)	Cadmium, cyanide, and heavy metal-containing plating solut (F007); cyanide and cyanide/h metal-bearing wastes (F009); and cyanide copper plating waste
Release Controls	Concrete slab with concrete berm surrounding the unit; slab is segregated and covered.	NA[a]	NA[a]
History of Documented Releases	None	None	None
Remedial Action Taken	NA[a]	NA[a]	NA[a]
Release Potential	Low	Cannot be determined	Cannot be determined
Potential Pathway	Soil, surface water, ground water	Cannot be determined	Cannot be determined
Reason for Release Potential	Access via potential crack(s) in concrete slab and berm	Not applicable	Not applicable
Need for Further Action	None	Cannot be determined	Cannot be determined

Notes:

[a] NA = Information not available from file review

TABLE 3

SWMU AND AOC SUMMARY

Sheet 2 of 7

	SWMU No. 4	SWMU No. 5	SWMU No. 6
Description	Acid/alkaline sump tank T-6 collects segregated acid/alkali rinse waters as part of the WPS.	Chrome reaction tank T-5 is part of the chrome reduction process in the WPS.	pH adjustment tank T-2 is a treatment tank in the WPS.
Startup	NA[a]	NA[a]	NA[a]
Date of Closure	The unit is active.	The unit is active.	The unit is active.
Wastes Managed	Nitric, muriatic, sulfuric, bright dip, phosphoric, and nitric-phosphoric acids (F009); nickel plating, spent metal treatment (acid), alkaline cleaning, mild acid, and phosphatizing solutions (F009); alkaline etchant (F009); alkaline aluminum cleaner and spent alkaline cleaning solution (F009); and nickel sulfate, acid, tin, and zinc plating wastes (F007)	Chromic and nitric acid (F009); aluminum deoxidizer solution (F009); nickel plating solution (F007); acidic chromate conversion solution (F009); and hexavalent chromate-bearing waste (F009)	Nitric, muriatic, sulfuric, brigh dip, phosphoric, and nitric-phosph acids (F009); nickel plating, sp metal treatment (acid), alkalin cleaning, mild acid, and phosphatizing solutions (F009 alkaline etchant (F009); alkali aluminum cleaner and spent a cleaning solution (F009); and nickel sulfate, acid, tin, and zinc pla wastes (F007)
Release Controls	NA[a]	NA[a]	NA[a]
History of Documented Releases	None	None	None
Remedial Action Taken	NA[a]	NA[a]	NA[a]
Release Potential	Cannot be determined	Cannot be determined	Cannot be determined
Potential Pathway	Cannot be determined	Cannot be determined	Cannot be determined
Reason for Release Potential	Not applicable	Not applicable	Not applicable
Need for Further Action	Cannot be determined	Cannot be determined	Cannot be determined

Notes:

[a] NA = Information not available from file review

TABLE 3

SWMU AND AOC SUMMARY

Sheet 3 of 7

	SWMU No. 7	SWMU No. 8	SWMU No. 9
Description	Cyanide destruct tank T-4 is part of the cyanide destruct process in the WPS.	Cyanate destruct tank T-3 is part of the cyanide destruct process in the WPS.	pH adjustment tank T-1 is a treatment tank in the WPS.
Startup	NA[a]	NA[a]	NA[a]
Date of Closure	The unit is active.	The unit is active.	This unit is active.
Wastes Managed	Nickel, cadmium, and cyanide-containing plating solutions (F007); cyanide-bearing and heavy metal-bearing cyanide wastes (F009); tin, cyanide copper, heavy metal, and zinc plating wastes (F007)	Cadmium, heavy metal, and cyanide-containing plating solutions (F007); cyanide-bearing and heavy metal-bearing cyanide wastes (F009); tin and cyanide copper plating wastes (F007)	Sulfuric, phosphoric, nitric, m bright dip, and nitric-phospho acids (F009); metal plating so (F007); spent metal treatment alkaline cleaning, mild acid, a phosphatizing solutions (F009 alkaline etchant (F009); alkali aluminum cleaner and spent a cleaning solution (F009); and tin, acid, and zinc plating wastes (
Release Controls	NA[a]	NA[a]	NA[a]
History of Documented Releases	None	None	None
Remedial Action Taken	NA[a]	NA[a]	NA[a]
Release Potential	Cannot be determined	Cannot be determined	Cannot be determined
Potential Pathway	Cannot be determined	Cannot be determined	Cannot be determined
Reason for Release Potential	Not applicable	Not applicable	Not applicable
Need for Further Action	Cannot be determined	Cannot be determined	Cannot be determined

Notes:

[a] NA = Information not available from file review

TABLE 3

SWMU AND AOC SUMMARY

Sheet 4 of 7

	SWMU No. 10	SWMU No. 11	SWMU No. 12
Description	Flash mix tank T-18 is used to flocculate and coagulate insoluble compounds as part of the WPS.	Clarifier tank T-16 was used to settle out flocculated particles as part of the WPS.	Floc tank T-17 is used to floc wastewater as part of the WP
Startup	NA[a]	NA[a]	NA[a]
Date of Closure	This unit is active.	This unit is designated as inactive, but no closure information was found in the files.	The unit is designated as inac but no closure information wa found in the files.
Wastes Managed	None listed on NOR, but probably handles the same wastes as SWMU No. 9	NA[a]	NA[a]
Release Controls	NA[a]	NA[a]	NA[a]
History of Documented Releases	None	None	None
Remedial Action Taken	NA[a]	NA[a]	NA[a]
Release Potential	Cannot be determined	Cannot be determined	Cannot be determined
Potential Pathway	Cannot be determined	Cannot be determined	Cannot be determined
Reason for Release Potential	Not applicable	Not applicable	Not applicable
Need for Further Action	Cannot be determined	Cannot be determined	Cannot be determined

Notes:

[a] NA = Information not available from file review

TABLE 3

SWMU AND AOC SUMMARY

Sheet 5 of 7

	SWMU No. 13	SWMU No. 14	SWMU No. 15
Description	Sludge tank T-15 acts as a sludge container within the WPS.	Bulk storage area stores the wastewater treatment sludge from the WPS.	Building 408 pipeline area is associated with leaking underg diesel fuel lines.
Startup	NA[a]	NA[a]	NA[a]
Date of Closure	This unit is active.	The unit is active.	In 1971, the lines were capped abandoned in-place, and repla by an aboveground supply line.
Wastes Managed	Wastewater treatment sludge	Wastewater treatment sludge	Leaking diesel fuel
Release Controls	NA[a]	NA[a]	NA[a]
History of Documented Releases	None	None	In 1971, the pipeline was disco to be leaking. Contaminated s was discovered in 1986. Associate diesel fuel was found in a storm sewe and Duck Creek.
Remedial Action Taken	NA[a]	NA[a]	About 2,500 cubic yards of contaminated soil were remov in 1986.
Release Potential	Cannot be determined	Cannot be determined	Originally considered high, bu it may be lower if fuel was drain from lines when unit was abandone
Potential Pathway	Cannot be determined	Cannot be determined	Soil, ground water
Reason for Release Potential	Not applicable	Not applicable	Documented release to soil an ground water
Need for Further Action	Cannot be determined	Cannot be determined	Further investigation is recommended to determine wh corrective action is required.

Notes:

[a] NA = Information not available from file review

TABLE 3

SWMU AND AOC SUMMARY

Sheet 6 of 7

	SWMU No. 16	SWMU No. 17	AOC No. 1
Description	Building 415 UST area is associated with a former diesel tank hold found to have had a leaky tank pipeline.	Building 405 sanitary sewer line area has contaminated soil from a leaking sewer line.	Building 407 UST area was a former tank hold area that was contaminated by a diesel fuel spill.
Startup	NA[a]	NA[a]	NA[a]
Date of Closure	Tank was closed in-place in 1990.	Unit is believed to still be active.	The tank was removed in 1988. No other closure data were available.
Wastes Managed	Leaking diesel fuel	Petroleum hydrocarbons 1,1,1-trichlorethane, and methylene chloride	Leaking diesel fuel
Release Controls	NA[a]	NA[a]	NA[a]
History of Documented Releases	Diesel fuel leak was discovered in the line from the tank upon removal of the line in 1990.	Soil was found to be contaminated through Dames & Moore site assessment.	Diesel fuel spill occurred in 1988 during tank removal operations.
Remedial Action Taken	NA[a]	NA[a]	NA[a]
Release Potential	Originally high, but it may be lower if line was removed during tank closure operations.	High	Originally considered high, but it may be lower since tank was removed.
Potential Pathway	Soil, ground water	Soil, ground water	Soil, ground water
Reason for Release Potential	Documented release to soil and ground water	Documented release to soil; ground water was apparently not sampled but could have become contaminated through contact with affected soil.	Documented release to soil and ground water
Need for Further Action	Further investigation is recommended to determine whether corrective action is required.	Further investigation is recommended to determine whether corrective action is required.	Further investigation is recommended to determine whether corrective action is required.

Notes:

[a] NA = Information not available from file review

TABLE 3

SWMU AND AOC SUMMARY

Sheet 7 of 7

	AOC No. 2
Description	Building 405/408 UST area was a former tank hold area that was contaminatred by gasoline spilling from overflow.
Startup	NA[a]
Date of Closure	The tank was removed in 1989. No other closure data were available.
Wastes Managed	Leaking gasoline
Release Control	NA[a]
History of Documented Releases	No specific data were available to aid in determining when the overflow spill occurred.
Remedial Action Taken	NA[a]
Release Potential	Originally considered high, but it may be lower since the tank was removed.
Potential Pathway	Soil, ground water
Reason for Release Potential	Documented release to soil and ground water
Need for Further Action	Further investigation is recommended to determine whether correctie action is required.

Notes:

[a] NA = Information not available from file review

3.1 SWMU NO. 1 - CONTAINER STORAGE AREA

Description

The container storage area is located between buildings 414 and 415, and was designed to store drums of hazardous and nonhazardous waste until a load of 80 compatible drums was accumulated. The hazardous drums were then shipped off to a permitted hazardous waste treatment, storage, and disposal (TSD) facility. The unit has since undergone closure.

The NOR lists two container storage areas (facilities 1 and 2) and describes the second container storage area as a continuation of the first area. Since both areas are believed to be located on the same concrete slab, these facilities were combined into one SWMU.

Startup

The initial startup date is unknown. The unit underwent closure on September 12, 1989, to eliminate the need to store hazardous waste for longer than 90 days. The closure was needed to enable the facility to file for an Affidavit of Exclusion and request a change in status from a TSD facility to that of a 90-day generator. This unit was reactivated following closure and currently stores drums of hazardous and nonhazardous waste for less than 90 days.

Date of Closure

The unit underwent RCRA closure on September 12, 1989, to eliminate the need to store hazardous waste for longer than 90 days. The unit is believed to still be active, storing drums for less than 90 days.

Wastes Managed

This unit managed (1) halogenated and nonhalogenated solvents (F001, F002, F003 and F005), (2) spent plating solutions (F007 and F009), (3) soldering oils (D008), and (4) other hazardous and nonhazardous waste streams. Wastes were ultimately transported to a permitted Class 1 TSD

facility. The unit currently manages (1) halogenated and nonhalogenated solvents (F001, F002, F003 and F005), (2) soldering oils, (D008), and (3) other hazardous and nonhazardous waste streams.

Release Controls

The container storage area is a concrete slab with a concrete berm surrounding the unit. The bermed slab also has a concrete segregation dike located down the middle to prevent noncompatible waste materials from being stored together. The entire slab is covered to protect the drums and minimize the amount of rainwater accumulation in the storage area.

History of Documented Releases

No releases from this SWMU have been documented.

3.2 SWMU NO. 2 - CHROME SUMP TANK T-7

Description

Chrome sump tank T-7 is located in building 410. This tank is used to collect segregated chrome rinse waters and forms the first part of the chrome reduction process in the facility's wastewater pretreatment system (WPS). Data on unit dimensions and construction materials were not available from the file review.

Startup

No information was found in the files.

Date of Closure

The unit is active.

Wastes Managed

This unit manages (1) chromic nitric acid, (2) aluminum deoxidizer solution (F009), (3) chromic conversion solution (acidic, for steel) (F009), (4) chromate (aluminum) conversion solution (acidic) (F009), and (5) chromate-bearing waste (F009). Chrome-bearing rinse water from this unit is pumped to tank T-5 (SWMU No. 5) to begin the chrome reduction process.

Release Controls

No information was found in the files.

History of Documented Releases

No releases from this SWMU have been documented.

3.3 SWMU NO. 3 - CYANIDE SUMP TANK T-8

Description

Cyanide sump tank T-8 is located within building 410. The tank is used to collect segregated cyanide rinse waters before they are pumped into a two-stage cyanide destruction (oxidation) process as part of the WPS. Data on unit dimensions and construction materials were not found in the files.

Startup

No information was found in the files.

Date of Closure

The unit is active.

Wastes Managed

This unit manages (1) cadmium, cyanide, and heavy metal-containing plating solutions (F007), (2) cyanide and cyanide/heavy metal-bearing wastes (F009), and (3) cyanide copper plating waste (F007). Cyanide-bearing rinse water from this unit is pumped to tank T-4 (SWMU No. 7) to begin the cyanide destruction process.

Release Controls

No information was found in the files.

History of Documented Releases

No releases from this SWMU have been documented.

3.4 SWMU NO. 4 - ACID/ALKALINE SUMP TANK T-6

Description

Acid/alkaline sump tank T-6 is located in building 410. The tank is used to collect segregated acid/alkali rinse waters, which are then pumped to the first of two pH adjustment tanks (SMWU No. 6) within the WPS. Data on unit dimensions and construction materials were not found in the files.

Startup

No information was found in the files.

Date of Closure

The unit is active.

Wastes Managed

This unit manages (1) nitric, muriatic, sulfuric, bright dip, phosphoric, and nitric-phosphoric acids (F009), (2) nickel plating, spent metal treatment (acid), alkaline cleaning, mild acid, and phosphatizing solutions (F009), (3) alkaline etchant (F009), (4) alkaline aluminum cleaner and spent alkaline cleaning solution (F009), and (5) nickel sulfate, acid, tin, and zinc plating wastes (F007).

Release Controls

No information was found in the files.

History of Documented Releases

No releases from this SWMU have been documented.

3.5 SWMU NO. 5 - CHROME REACTION TANK T-5 (SURFACE)

Description

Chrome reaction tank T-5 is located in building 410. This tank is a chrome reaction tank for the chemical reduction of chrome within the WPS. Chrome in the rinse water from SWMU No. 3 is reduced by lowering the pH with sulfuric acid and adding sodium sulfite or sodium bisulfite as a reducing agent. After the chrome has been reduced from the hexavalent to the trivalent state, it flows by gravity to tank T-2 (SWMU No. 6) to begin the first stage of a two-stage pH adjustment process. Data on unit dimensions and construction materials were not found in the files.

Startup

No information was found in the files.

Date of Closure

The unit is active.

Wastes Managed

This unit manages (1) chromic and nitric acid (F009); (2) aluminum deoxidizer solution (F009); (3) nickel plating solution (F007); (4) acidic chromate conversion solution (F009); and (5) hexavalent chromate-bearing waste (F009).

Release Controls

No information was found in the files.

History of Documented Releases

No releases from this SWMU have been documented.

3.6 SWMU NO. 6 - pH ADJUSTMENT TANK T-2 (SURFACE)

Description

Tank T-2 is located in building 410. This tank is a pH treatment tank used to treat trivalent chromium rinse waters from SWMU No. 5 (tank T-5) and acid/alkaline rinse water from SWMU No. 4 (tank T-6) within the WPS. Lime and sodium hydroxide are added for pH adjustment. After the pH is adjusted to within 1 pH unit of the desired value in tank T-2, the treated rinse water is moved to tank T-1 for further pH adjustments. Data on unit dimensions and construction materials were not found in the files.

Startup

No information was found in the files.

Date of Closure

The unit is active.

Wastes Managed

The unit manages (1) nitric, sulfuric, phosphoric, muriatic, bright dip and nitric-phosphoric acids (F009); (2) nickel plating, spent metal treatment, alkaline cleaning, mild acid, and phosphatizing solutions (F009); (3) alkaline etchant (F009); (4) alkaline aluminum cleaner and spent alkaline cleaning solution (F009); and (5) nickel sulfate, tin, acid, and zinc plating wastes (F007).

Release Controls

No information was found in the files.

History of Documented Releases

No releases from this SWMU have been documented.

3.7 SWMU NO. 7 - CYANIDE DESTRUCT TANK T-4 (SURFACE)

Unit Description

Cyanide destruct tank T-4 is located in building 410. This tank receives cyanide-bearing rinse water from cyanide sump tank T-8 (SWMU No. 3) and is the first stage of a two-stage cyanide destruct (oxidation) process within the WPS. The cyanide destruct process destroys the cyanide by using sodium hypochlorite (bleach) as an oxidizing agent. In the first stage treatment tank (T-4), the pH is adjusted to above 10.0, and cyanide is converted to cyanate. In the second stage, the cyanate is moved to tank T-3 (SWMU No. 8), where it is further oxidized to carbon dioxide and nitrogen. Data on unit dimensions and construction materials were not found in the files.

Startup

No information was found in the files.

Date of Closure

The unit is active.

Wastes Managed

The unit manages (1) nickel, cadmium, and cyanide-containing plating solutions (F007); (2) cyanide-bearing and heavy metal-bearing cyanide wastes (F009); and (3) tin, cyanide copper, heavy metal, and zinc plating wastes (F007).

Release Controls

No information was found in the files.

History of Documented Releases

No releases from this SWMU have been documented.

3.8 SWMU NO. 8 - CYANATE DESTRUCT TANK T-3 (SURFACE)

Description

Cyanate destruct tank T-3 is located in building 410. This tank receives cyanate-bearing rinse waters from SWMU No. 7 (tank T-4) that are oxidized to carbon dioxide and nitrogen as part of the two-stage cyanide destruction process within the WPS. Following the cyanide/cyanate destruction process, wastewater is directed to the pH adjustment system for further treatment. Data on unit dimensions and construction materials were not found in the files.

Startup

No information was found in the files.

Date of Closure

The unit is active.

Wastes Managed

The unit manages (1) cadmium, heavy metal, and cyanide-containing plating solutions (F007); (2) cyanide-bearing and heavy metal-bearing cyanide wastes (F009); and (3) tin and cyanide copper plating wastes (F007).

Release Controls

No information was found in the files.

History of Documented Releases

No releases from this SWMU have been documented.

3.9 SWMU NO. 9 - pH ADJUSTMENT TANK T-1 (SURFACE)

Description

Tank T-1 is located in building 410 and is used as the second treatment tank in the two-stage pH adjustment system within the WPS. This tank receives rinse water from SWMU No. 6 (pH adjustment tank T-2) that has been adjusted to within 1 pH unit of the desired value. Tank T-1 provides additional retention time to fine-tune and maintain the pH at the optimum value before the rinse water is sent on to flash mix tank T-18 (SWMU No. 10). Data on unit dimensions and construction materials were not found in the files.

Startup

No information was found in the files.

Date of Closure

The unit is active.

Wastes Managed

The unit manages (1) sulfuric, phosphoric, nitric, muriatic, bright dip, and nitric-phosphoric acids (F009); (2) metal plating solution (F007); (3) spent metal treatment, alkaline cleaning, mild acid, and phosphatizing solutions (F009); (4) alkaline etchant (F009); (5) alkaline aluminum cleaner and spent alkaline cleaning solution (F009); and (6) tin, acid, and zinc plating wastes (F007).

Release Controls

No information was found in the files.

History of Documented Releases

No releases from this SWMU have been documented.

3.10 SWMU NO. 10 - FLASH MIX TANK T-18 (SURFACE)

Description

Flash mix tank T-18 is located in building 410. This tank receives wastewater from SWMU No. 9 that has been adjusted to the optimum pH by the pH adjustment process. A polymer is added to the wastewater in tank T-18 to promote coagulation and flocculation of the insoluble metal hydroxide compounds, and the resulting settling of suspended particles. Floc formation is promoted in floc tank T-17 by the action of a floc paddle. Data on unit dimensions and construction materials

were not found in the files.

Startup

No information was found in the files.

Date of Closure

The unit is active.

Wastes Managed

No wastes are listed for this unit on the NOR; however, since the tank receives wastewater from SWMU No. 9, it probably handles the same wastes.

Release Controls

No information was found in the files.

History of Documented Releases

No releases from this SWMU have been documented.

3.11 SWMU NO. 11 - CLARIFIER TANK T-16 (SURFACE)

Description

Clarifier tank T-16 is located in building 410. Tank T-16 receives flocculated wastewater from the floc tank (T-17), within the WPS. Large hydroxide floc particles settle onto inclined plate surfaces within the clarifier. The floc particles then slide into a hopper at the base of the clarifier for consolidation and collection. The settled floc is referred to as sludge. Clarified effluent overflows from the top of the clarifier into the sanitary sewer. Data on unit dimensions and construction

materials were not found in the files.

Startup

No information was found in the files.

Date of Closure

The unit is designated as inactive on the NOR, dated October 7, 1991, but no closure information was found in the files.

Wastes Managed

No information was found in the files.

Release Controls

No information was found in the files.

History of Documented Releases

No releases from this SWMU have been documented.

3.12 SWMU NO. 12 - FLOC TANK T-17 (SURFACE)

Description

Floc tank T-17 is located in building 410. Wastewater from flash mix tank T-18 is flocculated in tank T-17 by the action of the floc paddle. Tank T-17 is part of the WPS. Flocculating wastewater from tank T-17 is then allowed to settle within the inclined plates of clarifier tank T-16. Data on unit dimensions and construction materials were not found in the files.

Startup

No information was found in the files.

Date of Closure

The unit is designated as inactive on the NOR, dated October 7, 1991, but no closure information was found in the files.

Wastes Managed

No information was found in the files.

Release Controls

No information was found in the files.

History of Documented Releases

No releases from this SWMU have been documented.

3.13 SWMU NO. 13 - SLUDGE TANK T-15 (SURFACE)

Description

Sludge tank T-15 is located in building 410. Tank T-15 is a part of the WPS. This tank acts as a buffer to prevent sludge from accumulating in the clarifier while the sludge is waiting to be fed to the filter press. Sludge tank T-15 also (1) functions as a container in which to store sludge if the filter press goes off-line, and (2) acts as a gravity thickener for the sludge, depending on the retention time and sludge characteristics. Data on unit dimensions and construction materials were not found in the files.

Startup

No information was found in the files.

Date of Closure

The unit is active.

Wastes Managed

The unit manages the wastewater treatment sludge from the electroplating process.

Release Controls

No information was found in the files.

History of Documented Releases

No releases from this SWMU have been documented.

3.14 SWMU NO. 14 - BULK STORAGE AREA

Description

The bulk storage area is located in building 410 and stores the wastewater treatment sludge from the WPS. Data on unit dimensions and construction materials were not found in the files.

Startup

No information was found in the files.

Date of Closure

The unit is active.

Wastes Managed

This unit manages the wastewater treatment sludge that has been dehydrated and stored while awaiting off-site transport.

Release Controls

No information was found in the files.

History of Documented Releases

No releases from this SWMU have been documented.

3.15 SWMU NO. 15 - BUILDING 408 PIPELINE AREA

Description

The building 408 pipeline area is located on the north side of building 408 and is associated with leaking underground diesel fuel lines that have contaminated the surrounding soil and perched ground water. The affected area is estimated to cover 32,000 square feet and extend to depths of from 6 to 10 feet bgs.

Startup

No information was found in the files.

Date of Closure

In 1971, the lines were capped, abandoned in-place, and replaced by an aboveground supply line.

Wastes Managed

This unit managed diesel fuel.

Release Controls

No information was found in the files.

History of Documented Releases

In 1971, the pipeline was discovered to be leaking. In 1986, diesel-contaminated soil was discovered in the vicinity of the buried pipeline. On two separate occasions (1986 and 1987), diesel fuel was discovered in nearby storm sewers. The fuel eventually flowed to Duck Creek. One of these discharges required containment and pumping of diesel fuel from the creek.

3.16 SWMU NO. 16 - BUILDING 415 UST AREA

Description

The building 415 UST area is located just north of building 415. This area is the site of an abandoned diesel tank that was closed in-place in 1990. The diesel fuel leak, which contaminated the soil and perched ground water within the former tank hold area, is believed to have come from the tank pipeline. The volume of contaminated material may be as little as 30 cubic yards and may extend to depths of from 10 to 12 feet bgs (Dames and Moore, 1992).

Startup

No information was found in the files.

Date of Closure

The tank was closed in-place in 1990.

Wastes Managed

This unit managed diesel fuel.

Release Controls

No information was found in the files.

History of Documented Releases

The UST was closed in-place in 1990. The diesel fuel leak was discovered in the line from the tank upon the removal of the line.

3.17 SWMU NO. 17 - BUILDING 405 SANITARY SEWER LINE AREA

Description

The building 405 sanitary sewer line area is located north of building 405. Leakage from this sewer line has affected the surrounding soil at depths of from 4 to 11 feet bgs. Data concerning the volume of affected material were not found in the files.

Startup

No information was found in the files.

Date of Closure

The unit is believed to still be active.

Wastes Managed

Petroleum hydrocarbons, 1,1,1-trichloroethane, and methylene chloride were detected in soil samples within the building 405 sanitary sewer line area.

Release Controls

No information was found in the files.

History of Documented Releases

No specific data were available to aid in determining when the releases occurred.

4.0 AREAS OF CONCERN

PRC identified two AOCs during the PA. At the request of EPA, a VSI was not conducted. AOCs are discussed below, and their locations are shown on Figure 2.

4.1 AOC NO. 1 - BUILDING 407 UST AREA

The building 407 UST area is located outside, and just southeast, of building 407. The area is the site of a former UST that was removed in 1988. Backfill material and perched ground water within the former tank hold were apparently contaminated by a 5-gallon diesel fuel spill that occurred while a drain line was being emptied during tank removal operations. The volume of affected material may be as little as 30 cubic yards and may extend to depths of from 10 to 12 feet bgs (Dames & Moore, 1992). No information on start-up dates or release controls was found in the files.

4.2 AOC NO. 2 - BUILDING 405/408 UST AREA

The building 405/408 UST area is located between buildings 405 and 408. The UST in this area was removed in 1989 and found to be in good condition. An overflow resulted in a gasoline spill that affected the soil and perched ground water. Data concerning the volume of affected material, start-up dates, or release controls were not found in the files.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Seventeen SWMUs and two AOCs were identified at the Alcatel facility. No documented releases have occurred from SWMUs No. 1 to 14. PRC recommends no further action for any of these units.

PRC recommends further investigation of the soil and ground water within the building 408 pipeline area (SWMU No. 15) to determine whether corrective action is required. Sampling of soil and ground water during a Phase III site assessment has shown that the area around the building 408 pipeline is contaminated. This underground pipeline was abandoned in 1971 and was later replaced by an aboveground supply line. Although about 2,500 cubic yards of contaminated soil were removed in 1986, the recent soil and ground-water sampling indicate that as much as 11,852 cubic yards of contaminated soil may remain (Dames & Moore, 1992). The potential for releases to environmental media is detailed below.

Ground water associated with this unit is contaminated. Shallow ground water represents discontinuous perched zones most frequently associated with relatively permeable backfill materials within former excavations, and sand and silt layers that receive recharge from precipitation.

The potential for a release to surface water is moderate. Associated diesel fuel has been found twice in facility storm sewers. It ultimately entered nearby Duck Creek. In addition, contaminated ground water can enter surface waters such as Duck Creek by fractures in the Austin Chalk Formation and overlying soils.

The potential for a release to air is low. The highest concentrations of contaminants

associated with this unit are present at between 4 and 11 feet bgs.

Soil associated with this area is contaminated. Although soil permeabilities generally decrease outside of excavated areas, contamination may migrate because of soil flushing during rain.

PRC recommends further investigation of the soil and ground water within the building 415 UST area (SWMU No. 16) to determine whether corrective action is required. Sampling of soil and ground water during a Phase III site assessment has shown that the area around the building 415 UST is contaminated. Recent soil and ground-water sampling indicate that the volume of contaminated material may be as little as 30 cubic yards (Dames & Moore, 1992). The potential for releases to environmental media is detailed below.

Ground water associated with this unit is contaminated. Shallow ground water represents discontinuous perched zones most frequently associated with relatively permeable backfill materials within former excavations, and sand and silt layers that receive recharge from precipitation.

The potential for a release to surface water is moderate. Although no release has been documented from this facility to surface water, contaminated ground water can enter surface waters such as Duck Creek by fractures in the Austin Chalk Formation and overlying soils.

The potential for a release to air is low. The highest concentrations of contaminants associated with this unit are at about 3-1/2 feet bgs.

Soil associated with this area is contaminated. Although soil permeabilities generally decrease outside of excavated areas, contamination may migrate because of soil flushing during rain.

PRC recommends further investigation of the soil and ground water within the building 405 sanitary sewer line area (SWMU No. 17) to determine whether corrective action is required. Sampling of soil during a Phase III site assessment has shown that the area around the building 405 sanitary sewer line is contaminated. The potential for releases to environmental media is detailed below.

The potential for a release to ground water is moderate. The ground water was not sampled within this area but could become contaminated through contact with contaminated soils. No ground-water release has been documented in this area.

The potential for a release to surface water is moderate. Although no release has been documented from this facility to surface water, contaminated ground water can enter surface waters such as Duck Creek by fractures in the Austin Chalk Formation and overlying soils.

The potential for a release to air is low. The highest concentrations of contaminants associated with this unit are from 4 to 11 feet bgs.

Soil associated with this area is contaminated. Although soil permeabilities generally decrease outside of excavated areas, contamination may migrate because of soil flushing during rain.

PRC recommends further investigation of the soil and ground water within the building 407 UST area (AOC No. 1) to determine whether corrective action is required. Sampling of soil and ground water during a Phase III site assessment has shown that the area around the former building 407 UST is contaminated. The tank was removed in 1988, but the backfill material and perched ground water were contaminated by diesel fuel spilled during tank removal. Recent soil and ground-water sampling indicate that the volume of contaminated material may be as little as 30 cubic yards (Dames & Moore, 1992). The potential for releases to environmental media is detailed below.

The potential for a release to ground water is moderate. The ground water was not sampled within this area but could become contaminated through contact with contaminated soils. No ground-water release has been documented in this area.

The potential for a release to surface water is moderate. Although no release has been documented from this facility to surface water, contaminated ground water can enter surface waters such as Duck Creek by fractures in the Austin Chalk Formation and overlying soils.

The potential for a release to air is low. The highest concentrations of contaminants associated with this unit are from 4 to 11 feet bgs.

Soil associated with this area is contaminated. Although soil permeabilities generally decrease outside of excavated areas, contamination may migrate because of soil flushing during rain.

PRC recommends further investigation of the soil and ground water within the building 407 UST area (AOC No. 1) to determine whether corrective action is required. Sampling of soil and ground water during a Phase III site assessment has shown that the area around the former building 407 UST is contaminated. The tank was removed in 1988, but the backfill material and perched ground water were contaminated by diesel fuel spilled during tank removal. Recent soil and ground-water sampling indicate that the volume of contaminated material may be as little as 30 cubic yards (Dames & Moore, 1992). The potential for releases to environmental media is detailed below.

Ground water associated with this unit is contaminated. Shallow ground water represents discontinuous perched zones most frequently associated with relatively permeable backfill materials within former excavations, and sand and silt layers that receive recharge from precipitation.

The potential for a release to surface water is moderate. Although no release has been documented from this unit to surface water, contaminated ground water can enter surface waters such as Duck Creek by fractures in the Austin Chalk Formation and overlying soils.

The potential for a release to air is low. The highest concentrations of contaminants associated with this unit are between 4 and 6 feet bgs.

Soil associated with this area is contaminated. Although soil permeabilities generally decrease outside of excavated areas, contamination may migrate because of soil flushing during rain.

PRC recommends further investigation of the soil and ground water within the building 405/408 UST area (AOC No. 2) to determine whether corrective action is required. Sampling of soil and ground water during a Phase III site assessment has shown that the area around the former building 405/408 UST is contaminated. The UST in this area was removed in 1989 and found to be in good condition; the soil and ground-water contamination resulted from a gasoline spillage that occurred when the tank was overfilled. The potential for releases to environmental media is detailed below.

Ground water associated with this unit is contaminated. Shallow ground water represents discontinuous perched zones most frequently associated with relatively permeable backfill materials within former excavations, and sand and silt layers that receive recharge from natural and artificial precipitation.

The potential for a release to surface water is moderate. Although no release has been documented from this unit to surface water, contaminated ground water can enter surface waters such as Duck Creek by fractures in the Austin Chalk Formation and overlying soils.

The potential for a release to air is low. The highest concentrations of contaminants associated with this unit are between 4 and 11 feet bgs.

Soil associated with this area is contaminated. Although soil permeabilities generally decrease outside of excavated areas, contamination may migrate because of soil flushing during rain.

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